The documentation and process conversion measures necessary to comply with this revision shall be completed by 15 July 1998

INCH-POUND

MIL-PRF-19500/323F
15 April 1998
SUPERSEDING
MIL-S-19500/323E
26 August 1994

PERFORMANCE SPECIFICATION SHEET
SEMICONDUCTOR DEVICE, TRANSISTOR, PNP, SILICON, SWITCHING
TYPES 2N3250A, 2N3251A, JAN, JANTX, JANTXV, AND JANS

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers the performance requirements for PNP silicon switching transistors. Four levels of product assurance are provided for each device type as specified in MIL-PRF-19500.

1.2 Physical dimensions. See figure 1 herein (similar to TO-39).

1.3 Maximum ratings.

P_T 1/ T_A = +25°C	P_T 2/ T_C = +25°C	V_{CBO}	V_{CEO}	V_{EBO}	I_C	T_{OP} and T_{STG}	$R_{\theta JA}$ 1/ 2/
W	W	V dc	V dc	V dc	mA dc	°C	°C/W
0.36	1.2	60	60	5.0	200	-65 to +175	417

1/ Derate linearly 2.4 mW/°C above T_A = +25°C.
2/ Derate linearly 8.0 mW/°C above T_C = +25°C.

1.4 Primary electrical characteristics.

Limits	h_{FE1} V_{CE} = 1.0 V dc I_C = 0.1 mA dc		h_{FE3} 1/ V_{CE} = 1.0 V dc I_C = 10 mA dc		h_{FE4} 1/ V_{CE} = 1.0 V dc I_C = 50 mA dc		$\lvert h_{fe} \rvert$ f = 100 MHz V_{CE} = 20 V dc I_C = 10 mA dc	
	Min	Max	Min	Max	Min	Max	Min	Max
2N3250A	40		50	150	15		2.5	9.0
2N3251A	80		100	300	30		3.0	9.0

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, Defense Supply Center Columbus, ATTN: DSCC-VAT, 3990 East Broad Street, Columbus, OH 43216-5000, by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A FSC 5961

1.4 Primary electrical characteristics (continued).

Limits	$r_b'C_C$ V_{CE} = 20 V dc I_C = 10 mA dc f = 31.8 MHz	$V_{CE(SAT)1}$ I_C = 10 mA dc I_B = 1.0 mA dc	C_{obo} V_{CB} = 10 V dc I_E = 0 100 kHz ≤ f ≤ 1 MHz	t_{on} I_C = 10 mA dc I_B = 1.0 mA dc	t_{off} I_C = 10 mA dc I_B = 1.0 mA dc		N_F V_{CE} = 5 V dc I_C = .1 mA dc Rg = 1kΩ f = 100 Hz
					2N3250A	2N3251A	
	ps	V dc	pF	ns	ns	ns	dB
Min	5						
Max	250	0.25	6	70	250	300	6

1/ Pulsed (see 4.5.1).

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections 3 and 4 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.2).

SPECIFICATION

DEPARTMENT OF DEFENSE

MIL-PRF-19500 - Semiconductor Devices, General Specification for.

STANDARD

MILITARY

MIL-STD-750 - Test Methods for Semiconductor Devices.

(Unless otherwise indicated, copies of the above specifications, standards, and handbooks are available from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

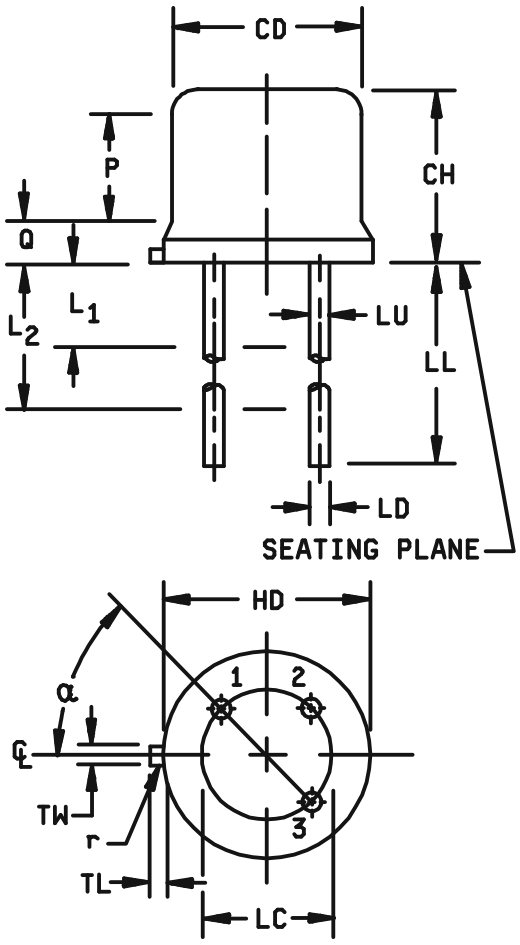
2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein (except for related associated specifications or specification sheets), the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Qualification. Devices furnished under this specification shall be products that are authorized by the qualifying activity for listing on the applicable qualified products list before contract award (see 4.2 and 6.3).

3.2 Associated specification. The individual item performance requirements shall be in accordance with MIL-PRF-19500, and as specified herein.

Symbol	Dimensions				Notes
	Inches		Millimeters		
	Min	Max	Min	Max	
CD	.178	.195	4.52	4.95	
CH	.170	.210	4.32	5.34	
HD	.209	.230	5.31	5.84	
LC	.100 TP		2.54 TP		6
LD	.016	.021	0.41	0.53	7, 8
LL	.500	.750	12.70	19.05	7,. 8, 12
LU	.016	.019	0.41	0.48	7, 8
L_1	- - -	.050	- - -	1.27	7, 8
L_2	.250	- - -	6.35	- - -	7, 8
Q	- - -	.040	- - -	1.02	5
r	- - -	.007	- - -	0.178	10
TL	.028	.048	0.71	1.22	3, 4
TW	.036	.046	0.91	1.17	3
α	45° TP		45° TP		6



NOTES:
1. Dimension are in inches.
2. Metric equivalents are given for general information only.
3. Beyond r (radius) maximum, TW shall be held for a minimum length of .011 (0.28 mm).
4. Dimension TL measured from maximum HD.
5. Body contour optional within zone defined by HD, CD, and Q.
6. Leads at gauge plane .054 +.001 -.000 inch (1.37 +0.03 -0.00 mm) below seating plane shall be within .007 inch (0.18 mm) radius of true position (TP) at maximum material condition (MMC) relative to tab at MMC. The device may be measured by direct methods.
7. Dimension LU applies between L_1 and L_2. Dimension LD applies between L_2 and minimum. Diameter is uncontrolled in L_1 and beyond LL minimum.
8. All three leads.
9. The collector shall be internally connected to the case.
10. Dimension r (radius) applies to both inside corners of tab.
11. In accordance with ANSI Y14.5M, diameters are equivalent to Nx symbology.

FIGURE 1. Physical dimensions (similar to TO-39).

3.3 Abbreviations, symbols, and definitions. Abbreviations, symbols, and definitions used herein shall be as specified in MIL-PRF-19500 and herein.

I_{BEX} - - - Base cutoff current (dc) with specified circuit between the collector and emitter.

3.4 Interface requirements and physical dimensions. The interface requirements and physical dimensions shall be as specified in MIL-PRF-19500 and on figure 1 (TO-39) herein.

3.4.1 Lead finish. Lead finish shall be solderable in accordance with MIL-PRF-19500. Where a choice of lead finish is desired, it shall be specified in the acquisition document (see 6.2).

3.5 Marking. Marking shall be in accordance with MIL-PRF-19500.

3.6 Electrical performance characteristics. Unless otherwise specified herein, the electrical performance characterics are as specified in 1.3, 1.4 and table I herein.

3.7 Electrical test requirements. The electrical test requirements shall be the subgroups specified in 4.4.2 and 4.4.3 herein.

4. VERIFICATION

4.1 Classification of inspections. The inspection requirements specified herein are classified as follows:

a. Qualification inspection (see 4.2).

b. Screening (see 4.3)

c. Conformance inspection (see 4.4).

4.2 Qualification inspection. Qualification inspection shall be in accordance with MIL-PRF-19500.

4.3 Screening (JANS, JANTX and JANTXV levels only). Screening shall be in accordance with MIL-PRF-19500 (Appendix E, table IV), and as specified herein. The following measurements shall be made in accordance with table I herein. Devices that exceed the limits of table I herein shall not be acceptable.

Screen (see appendix E, table IV of MIL-PRF-19500)	Measurement	
	JANS level	JANTX and JANTXV levels
9	h_{FE3}, I_{CBO2}	Not applicable
11	I_{CBO2}; h_{FE3}; ΔI_{CBO2} = 100 percent of initial value or 5 nA dc, whichever is greater, Δh_{FE3} = 25 percent change from initial value	I_{CBO2} and h_{FE3}
12	See 4.3.1	See 4.3.1
13	Subgroups 2 and 3 of table I herein; ΔI_{CBO2} = 100 percent of initial value or 5 nA dc, whichever is greater; Δh_{FE3} = 25 percent change from initial value.	Subgroup 2 of table I herein; ΔI_{CBO2} = 100 percent of initial value or 5 nA dc, whichever is greater; Δh_{FE3} = 25 percent change from initial value.

4.3.1 Power burn-in conditions. Power burn-in conditions are as follows: T_A = Room ambient as defined in 4.5 of MIL-STD-750; V_{CB} = 25 V dc (10 V dc for JANS); P_T = 360 mW.

NOTE: No heat sink or forced air cooling on the devices shall be permitted.

4.4 Conformance inspection. Conformance inspection shall be in accordance with MIL-PRF-19500.

4.4.1 Group A inspection. Group A inspection shall be conducted in accordance with appendix E, table V of MIL-PRF-19500 and table I herein.

4.4.2 Group B inspection. Group B inspection shall be conducted in accordance with the conditions specified for subgroup testing in appendix E, table VIa (JANS) and table VIb (JANTX and JANTXV) of MIL-PRF-19500. Electrical measurements (end points) and delta requirements shall be in accordance with the applicable steps of table II herein.

4.4.2.1 Group B inspection, appendix E, table VIa (JANS) of MIL-PRF-19500.

Subgroup	Method	Conditions
B4	1037	V_{CB} = 10 V dc; P_T = 360 mW at T_A = room ambient as defined in the general requirements of MIL-STD-750. $t_{on} = t_{off}$ = 3 minutes minimum for 2,000 cycles. No heat sink or forced-air cooling on devices shall be permitted.
B5	1027	V_{CB} = 10 V dc; for 96 hours, P_T = 360 mW at T_A = +100°C or adjusted as required according to the chosen T_A to give an average T_J = +275°C.
B6	3131	See 4.5.3.

4.4.2.2 Group B inspection, appendix E, table VIb (JANTX and JANTXV) of MIL-PRF-19500.

Subgroup	Method	Conditions
B3	1027	V_{CB} = 25 V dc; P_T = 360 mW at T_A = room ambient as defined in the general requirements of MIL-STD-750. No heat sink or forced-air cooling on the devices shall be permitted.
B5	3131	See 4.5.3.

4.4.3 Group C inspection. Group C inspection shall be conducted in accordance with the conditions specified for subgroup testing in appendix E, table VII of MIL-PRF-19500. Electrical measurements (end points) and delta requirements shall be in accordance with the applicable steps of table II herein.

4.4.3.1 Group C inspection, appendix E, table VII of MIL-PRF-19500.

Subgroup	Method	Conditions
C2	2036	Test condition E.
C6	1026	V_{CB} = 25 V dc, P_T = 360 mW at T_A = room ambient as defined in the general requirements of MIL-STD-750. No heat sink or forced-air cooling on device shall be permitted.

4.5 Method of inspection. Methods of inspection shall be as specified in the appropriate tables and as follows.

4.5.1 Pulse measurements. Conditions for pulse measurement shall be as specified in section 4 of MIL-STD-750.

4.5.2 Collector - base time constant. This parameter may be determined by applying an rf signal voltage of 1.0 volt (rms) across the collector-base terminals, and measuring the ac voltage drop (V_{eb}) with a high impedance rf voltmeter across the emitter-base terminals. With f = 31.8 MHz used for the 1.0 V signal, the following computation applies; $r_b'C_c$ (ps) = 5 x V_{eb} (millivolts), see figure 4.

4.5.3 Thermal resistance. Thermal resistance measurements shall be conducted in accordance with test method 3131 of MIL-STD-750. The following details shall apply:

a. Minimum collector magnitude shall be 36 mA dc.

b. Collector to emitter voltage magnitude shall be 10 V dc.

c. Reference point temperature shall be +25°C ≤ T_R ≤ +35°C. The chosen reference temperature shall be recorded before the test is started.

d. Maximum $R_{\theta JA}$ limit shall be 485.4°C/W.

TABLE I. Group A inspection.

Inspection 1/	MIL-STD-750		Symbol	Limit		Unit
	Method	Conditions		Min	Max	
Subgroup 1						
Visual and mechanical examination	2071					
Subgroup 2						
Collector to base cutoff current	3036	Bias condition D; V_{CB} = 60 V dc	I_{CBO1}		10	µA dc
Emitter to base cutoff current	3026	Bias condition D; V_{EB} = 5 V dc	I_{EBO}		10	µA dc
Breakdown voltage collector - emitter	3011	Bias condition D; I_C = 10 mA dc; pulsed (see 4.5.1)	$V_{(BR)CEO}$	60		V dc
Collector - base cutoff current	3036	Bias condition D; V_{CB} = 40 V dc	I_{CBO2}		20	nA dc
Collector - emitter cutoff current	3041	Bias condition A; V_{BE} = 3.0 V dc V_{CE} = 40 V dc	I_{CEX1}		20	nA dc
Base cutoff current	3041	Bias condition A; V_{BE} = 3.0 V dc; V_{CE} = 40 V dc	I_{BEX}		50	nA dc
Forward-current transfer ratio	3076	V_{CE} = 1.0 V dc; I_C = 0.1 mA dc	h_{FE1}			
2N3250A				40		
2N3251A				80		
Forward-current transfer ratio	3076	V_{CE} = 1.0 V dc; I_C = 1.0 mA dc	h_{FE2}			
2N3250A				45		
2N3251A				90		
Forward-current transfer ratio	3076	V_{CE} = 1.0 V dc; I_C = 10 mA dc, pulsed (see 4.5.1)	h_{FE3}			
2N3250A				50	150	
2N3251A				100	300	
Forward-current transfer ratio	3076	V_{CE} = 1.0 V dc; I_C = 50 mA dc; pulsed (see 4.5.1)	h_{FE4}			
2N3250A				15		
2N3251A				30		

See footnote at end of table.

TABLE I. Group A inspection - Continued.

Inspection 1/	MIL-STD-750		Symbol	Limit		Unit
	Method	Conditions		Min	Max	
Subgroup 2 - Continued						
Current gain linearity		$\frac{\lvert h_{FE3} - h_{FE1} \rvert}{h_{FE3}} \quad x \quad 100$	h_{FE}			
2N3250A					40	%
2N3251A					30	%
Collector - emitter saturated voltage	3071	I_C = 10 mA dc; I_B = 1.0 mA dc	$V_{CE(SAT)1}$		0.25	V dc
Collector - emitter saturated voltage	3071	I_C = 50 mA dc; I_B = 5.0 mA dc; pulsed (see 4.5.1)	$V_{CE(SAT)2}$		0.50	V dc
Base - emitter saturated voltage	3066	Test condition A; I_C = 10 mA dc; I_B = 1.0 mA dc	$V_{BE(SAT)1}$	0.60	0.90	V dc
Base - emitter saturated voltage	3066	Test condition A; I_C = 50 mA dc; I_B = 5.0 mA dc; pulsed (see 4.5.1)	$V_{BE(SAT)2}$		1.20	V dc
Subgroup 3						
High-temperature operation:		T_A = +150°C				
Collector - emitter cutoff current	3041	Bias condition A; V_{CE} = 40 V dc; V_{BE} = 3.0 V dc	I_{CEX2}		20	μA dc
Low-temperature operation:		T_A = -55°C				
Forward-current transfer ratio	3076	V_{CE} = 1.0 V dc; I_C = 1.0 mA dc	h_{FE5}			
2N3250A				20		
2N3251A				40		
Subgroup 4						
Small-signal short-circuit forward-current transfer ratio	3206	V_{CE} = 10 V dc; I_C = 1 mA dc; f = 1 kHz	h_{fe}			
2N3250A				50	200	
2N3251A				100	400	

See footnote at end of table.

TABLE I. Group A inspection - Continued.

Inspection 1/	MIL-STD-750		Symbol	Limit		Unit
	Method	Conditions		Min	Max	
Subgroup 4 - Continued						
Magnitude of common emitter small-signal short-circuit forward-current transfer ratio	3306	V_{CE} = 20 V dc; I_C = 10 mA dc; f = 100 MHz	$\lvert h_{fe} \rvert$			
2N3250A				2.5	9.0	
2N3251A				3.0	9.0	
Open circuit output capacitance	3236	V_{CB} = 10 V dc; I_E = 0 100 kHz ≤ f ≤ 1 MHz	C_{obo}		6	pF
Input capacitance (output open-circuited)	3240	V_{EB} = 1.0 V dc; I_C = 0; 100 kHz ≤ f ≤ 1 MHz	C_{ibo}		8	pF
Collector - base time constant		V_{CE} = 20 V dc; I_C = 10 mA dc; f = 31.8 MHz; (see 4.5.2 and figure 4)	$r_b'C_c$	5	250	ps
Noise figure	3246	V_{CE} = 5.0 V dc; I_C = 100 μA dc; Rg = 1 kΩ; f = 100 Hz	NF		6	dB
Pulse response:						
On-time	3251	Test condition A; I_C = 10 mA dc; I_{B1} = 1.0 mA dc; (see figure 2)	t_{on}		70	ns
Off time	3251	Test condition A; I_C = 10 mA dc; I_{B1} = I_{B2} = 1.0 mA dc	t_{off}			
2N3250A					250	ns
2N3251A					300	ns
Small-signal open circuit reverse-voltage transfer ratio	3211	V_{CE} = 10 V dc; I_C = 1.0 mA dc; f = 1 kHz	h_{re}			
2N3250A					10	x 10^{-4}
2N3251A					20	x 10^{-4}

See footnote at end of table.

TABLE I. Group A inspection - Continued.

Inspection 1/	MIL-STD-750		Symbol	Limit		Unit
	Method	Conditions		Min	Max	
Subgroup 4 - Continued						
Small-signal short circuit input impedance	3201	V_{CE} = 10 V dc; I_C = 1.0 mA dc; f = 1 kHz	h_{ie}			
2N3250A				1	6	kΩ
2N3251A				2	12	kΩ
Small-signal open circuit output admittance	3216	V_{CE} = 10 V dc; I_C = 1.0 mA dc; f = 1 kHz	h_{oe}			
2N3250A				4	40	μmhos
2N3251A				10	60	μmhos

1/ For sampling plan, see MIL-PRF-19500.

TABLE II. Groups B and C electrical measurements. 1/ 2/ 3/

Step	Inspection	MIL-STD-750		Symbol	Limits		Unit
		Method	Conditions		Min	Max	
1.	Collector - base cutoff current	3036	Bias condition D; V_{CB} = 40 V dc	I_{CBO2}		20	nA dc
2.	Collector - base cutoff current	3036	Bias condition D; V_{CB} = 40 V dc	I_{CBO}		40	nA dc
3.	Forward-current transfer ratio	3076	V_{CE} = 1.0 V dc; I_C = 10 mA dc; pulsed (see 4.5.1)	h_{FE3}			
	2N3250A				50	150	
	2N3251A				100	300	
4.	Collector - emitter voltage (saturated)	3071	I_C = 50 mA dc; I_B = 5.0 mA dc	$V_{CE(Sat)2}$		0.5	V dc
5.	Forward-current transfer ratio	3076	V_{CE} = 1.0 V dc; I_C = 10 mA dc; pulsed (see 4.5.1)	Δh_{FE3}	± 25 percent change from initial value.		
6.	Collector - base cutoff current	3036	Bias condition D; V_{CB} = 40 V dc	ΔI_{CBO2}	100 percent of initial value or 5 nA dc, whichever is greater.		
7.	Collector - emitter voltage (saturated)	3071	I_C = 50 mA dc; I_B = 5.0 mA dc	$\Delta V_{CE(Sat)2}$	50 mV dc change from initial value.		

1/ The electrical measurements for appendix E, table VIa (JANS) of MIL-PRF-19500 are as follows:

a. Subgroup 3, see table II herein, steps 1, 3, and 4.

b. Subgroup 4, see table II herein, steps 1, 3, 4, and 7.

c. Subgroup 5, see table II herein, steps 1, 3, 4, 5, 6, and 7.

2/ The electrical measurements for appendix E, table VIb (JANTX and JANTXV) of MIL-PRF-19500 are as follows:

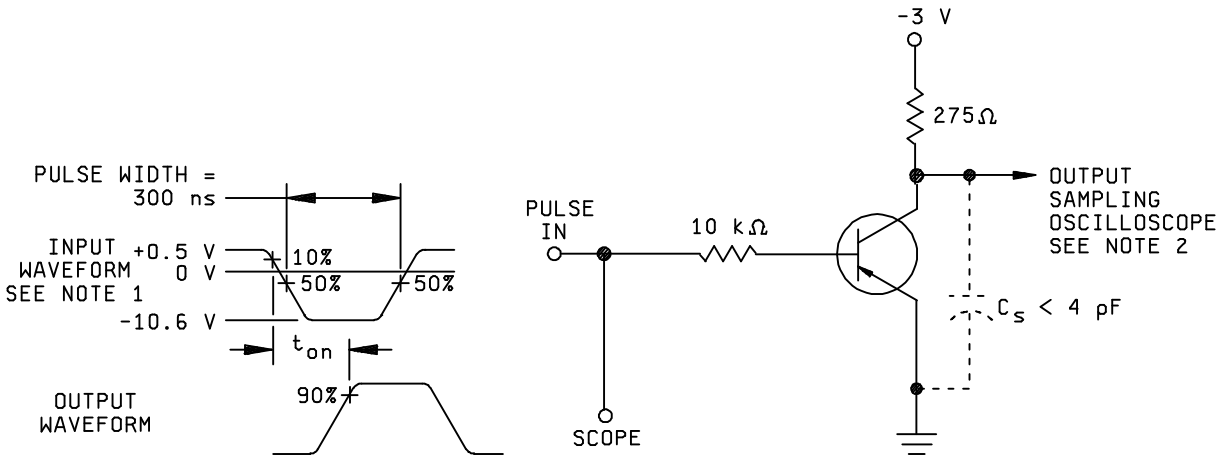
a. Subgroup 2, see table II herein, steps 1 and 3.

b. Subgroups 3 and 6, see table II herein, steps 2, 3 and 5.

3/ The electrical measurements for appendix E, table VII of MIL-PRF-19500 are as follows:

a. Subgroups 2 and 3, table II herein, steps 1, 3, and 4.

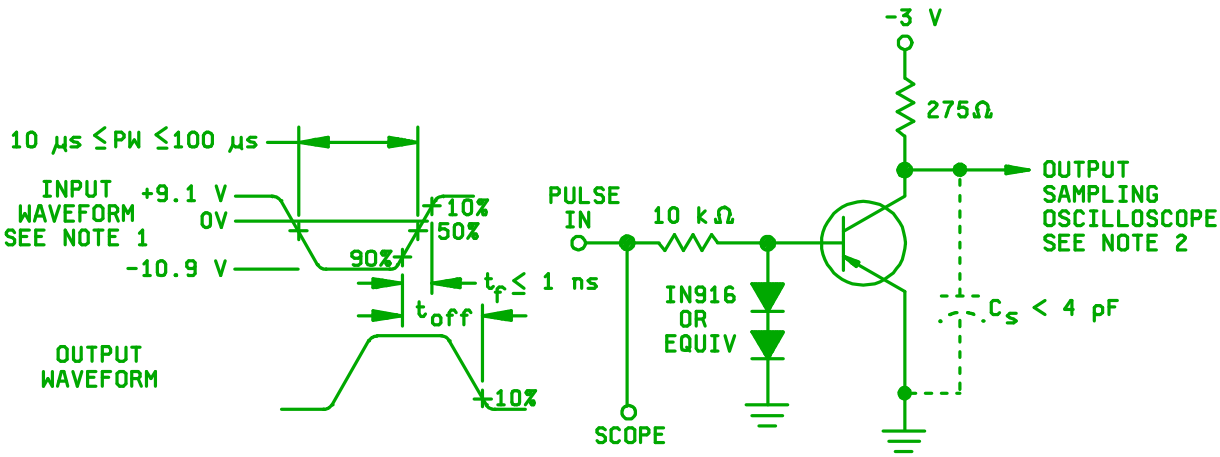
b. Subgroup 6, see table II herein, steps 1, 3, 4, 5, and 6 (for JANS) and 2, 3, and 5 (for JAN, JANTX, and JANTXV).



NOTES:

1. The rise time (t_r) of the applied pulse shall be ≤ 1.0 ns, duty cycle ≤ 2 percent, and the generator source Z shall be 50Ω.
2. Sampling oscilloscope: Z_{IN} ≥ 100 kΩ; rise time(t_r) ≤ .1 ns.

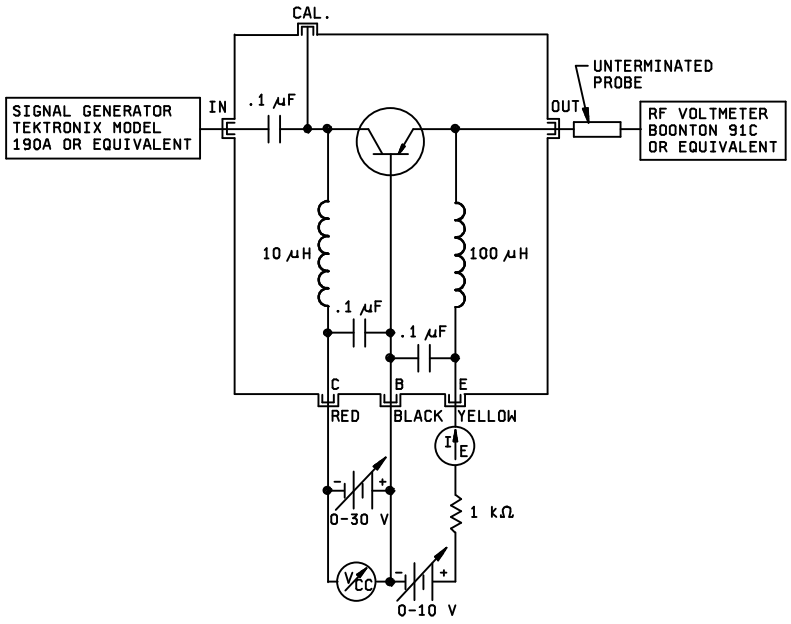
FIGURE 2. Delay and rise time, test circuit.



NOTES:

1. The rise time (t_r) of the applied pulse shall be ≤ 1.0 ns, duty cycle ≤ 2 percent, and the generator source Z shall be 50Ω.
2. Sampling oscilloscope: Z_{IN} ≥ 100 kΩ; rise time (t_r) ≤ .1 ns.

FIGURE 3. Storage and fall time, test circuit.



Procedure:

1. Set signal generator to 31.8 MHz and connect to "IN" connector on test jig.
2. Connect low voltage dc power supplies as shown. A 1 K ohm resistor should be placed in series with the emitter power supply to prevent damage to transistors being tested.
3. Set collector supply for V_{CE} = -20 V dc, and emitter supply for I_C = -10 mA.
4. Connect RF voltmeter with unterminated probe adapter to "CAL" connector on test jig. Adjust signal generator until RF voltage is 1 volt (NOTE: Decade switching of voltmeter should be accurate from 1 mV to 3 volts. If not, input voltage may be set using voltage dividers, utilizing lower scales of the RF voltmeter. If this is done, the voltage dividers should be left in place when the voltmeter is removed, as they constitute a load on the input of the circuit.)
5. Remove RF voltmeter from "CAL" connector and connect to "OUT" connector. Meter will now read $r_b'C_c$ as follows:

Meter range full scale
3 mV
10 mV
30 mV
.1 volt

FIGURE 4. Collector-base time constant test circuit (an equivalent circuit may be used).

5. PACKAGING

5.1 Packaging. Packaging shall prevent mechanical damage of the devices during shipping and handling and shall not be detrimental to the device. When actual packaging of material is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Points' packaging activity within the Military Department or Defense Agency, or within the Military Departments' System Command. Packaging data retrieval is available from the managing Military Departments' or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

5.2 Marking. Unless otherwise specified (see 6.2), marking shall be in accordance with MIL-PRF-19500.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Notes. The notes specified in MIL-PRF-19500 are applicable to this specification.

6.2 Acquisition requirements. See MIL- PRF-19500.

6.3 Qualification. With respect to products requiring qualification, awards will be made only for products which are, at the time of award of contract, qualified for inclusion in Qualified Products List QPL No.19500 whether or not such products have actually been so listed by that date. The attention of the contractors is called to these requirements, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification in order that they may be eligible to be awarded contracts or purchase orders for the products covered by this specification. Information pertaining to qualification of products may be obtained from Defense Supply Center Columbus, ATTN: DSCC-VQE, 3990 East Broad Street, Columbus, OH 43216-5000.

6.4 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Custodians:
Army - CR
Navy - EC
Air Force - 17
NASA - NA

Review activities:
Army - AR, AV, MI, SM
Navy - AS, CG, MC
Air Force - 13, 19, 85, 99

Preparing activity:
DLA - CC

(Project 5961-1916)

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.

2. The submitter of this form must complete blocks 4, 5, 6, and 7.

3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

I RECOMMEND A CHANGE:	**1. DOCUMENT NUMBER** MIL-PRF-19500/323F	**2. DOCUMENT DATE (YYMMDD)** 980415

3. DOCUMENT TITLE
SEMICONDUCTOR DEVICE, TRANSISTOR, PNP, SILICON, SWITCHING, TYPE 2N3250A, 2N3251A, JAN, JANTX, JANTXV, AND JANS

4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)

5. REASON FOR RECOMMENDATION

6. SUBMITTER

a. NAME (Last, First, Middle initial)	b. ORGANIZATION	
c. ADDRESS (Include Zip Code)	d. TELEPHONE (Include Area Code) Commercial DSN FAX EMAIL	7. DATE SUBMITTED (YYMMDD)

8. PREPARING ACTIVITY

a. Point of contact: Alan Barone	b. TELEPHONE Commercial: 614-692-0510 DSN: 850-0510 FAX: 614-692-6939 EMAIL: alan_barone@dscc.dla.mil
c. ADDRESS: Defense Supply Center Columbus, ATTN: DSCC-VAT, 3990 East Broad Street, Columbus, OH 43216-5000	**IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT:** Defense Quality and Standardization Office 5203 Leesburg Pike, Suite 1403, Falls Church, VA 22041-3466 Telephone (703) 756-2340 DSN 289-2340